



PATENT ABSTRACTS OF JAPAN

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H01L 21/027**G03F 1/08****G03F 7/20**(21) Application number: **03293920**(71) Applicant: **NIKON CORP**(22) Date of filing: **15.10.91**(72) Inventor: **SHIRAISHI NAOMASA**(54) **ALIGNER AND EXPOSURE METHOD**

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(57) Abstract:

PURPOSE: To provide an aligner and an exposure method wherein the image of the optical contrast of a fine pattern can be transferred.

CONSTITUTION: A beam of irradiation light from a light source 1 is incident on a polarization plate 6 via an oval mirror 2, a mirror 3, a condenser lens 4 and an optical integrator 5. The polarization plate 6 is supported by a support utensil 7; it can be turned around an optical axis Ax or an axis which is parallel to it; the polarization direction of a transmitted light flux can be set arbitrarily. The beam of irradiation light is converted into a beam of linearly polarized light which is vibrated in a direction parallel to the lengthwise direction of a line-and-space pattern on a photomask 11; it is guided to a condenser lens 8 and a mirror 9; a pattern 12 on the rear surface of the mask 11 is irradiated. A beam of transmitted and diffracted light from the mask 11 is condensed by means of a projection optical system 13; the image of the pattern 12 is formed on a wafer 14.

